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ABSTRACT

A study of student retention was conducted at DeKalb Area Technical School (Georgia) focusing on percentage rates of retention at four stages of the matriculation process: application, acceptance, enrollment, and graduation/completion. The study followed a random sample of 5,592 applicants and students between January 1984 and June 1986. Study findings included the following: (1) DeKalb Tech students generally took longer to complete their programs than scheduled; (2) retention rates varied by matriculation stage as well as program; (3) in all programs, 47% of those who applied were accepted, 76% of those who were accepted registered for enrollment, and 58% of those who enrolled accomplished graduation/completion; and (4) 21% of those who applied in all programs graduated. (EJV)

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RATES OF STUDENT RETENTION

IN

DEKALB TECH PROGRAMS

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Abstract

This study described student retention rates by following a 5,592 sample of DeKalb Tech applicants and students between January 1984 and June 1986. Unlike studies which focus upon the reasons for the lack of student retention, this study focused upon percentage rates generated in the four basic stages of the matriculation process: Application, Acceptance, Enrollment, and Graduation/Completion. These stages are related to critical areas where student retention can be measured and where action can be taken for improvement.

It was found that DeKalb Tech students generally take longer periods than what is scheduled to complete their programs. It was also found that DeKalb Tech programs have rates of student retention which vary by stage as well as by program. The 30 full-time day programs identified in the study each generated four percentage rates from respective portions of the 5,592 sample. In all programs, 47% of those who applied were accepted, 76% of those who were accepted registered for enrollment, and 58% of those who enrolled accomplished graduation/completion. Moreover, 21% of those who applied in all programs accomplished graduation/completion. These percentage rate percentages were reflective of student traits and the DeKalb Tech curriculum.

It was recommended that a more fluid curriculum be established to accommodate student traits. Faculty, administrators, and Student Services were advised to study the percentage rates and take action where it is deemed appropriate.

"RATES OF STUDENT RETENTION IN DeKALB TECH PROGRAMS"

The purpose of this study was to describe the rates of student retention in the programs at DeKalb Area Technical School. The study pinpointed student retention rates for DeKalb Tech's vocational-technical programs by following students from application through graduation/completion. Since student retention is crucial to institutional stability, the study sought to reveal areas where faculty, administrators, and staff could take action to improve the academic persistence of students.

Unlike "The DeKalb Tech Retention Study" (Johnson, 1985) which focused upon the reasons for the lack of retention, this study focused upon percentage rates of applicants and students in the matriculation process. It identified four basic stages where student retention is important: Application, Acceptance, Enrollment, and Graduation/Completion. Since all applicants and students pass through one or more of these stages, the study identified areas related to the stages where retention rates appear to be problematic. Although student retention rates differ for each program, it was felt that this study could determine where program resources could be allocated and concentrated more effectively.

Statement of the Problem

Each year a large number of persons apply at DeKalb Tech while a smaller number complete a program of study. Program entry requirements, dual enrollment at DeKalb College, and varying program standards influence these numbers. Also, factors such as program switching, developmental studies requirements, course

scheduling, and student dropout influence timely program completions.

DeKalb Tech faculty, administrators, and staff were concerned that a failure to retain students presents a threat to academically sound programs which are needed to serve critical areas of employment. It was felt that identifying where students fail to persist could be helpful to marketing, student recruitment, student counseling, program improvement, and other areas important for institutional growth and stability.

Basic Question and Limitations

The study posed the following basic question: What are the retention rates of applicants and students who are scheduled to progress through the four basic stages of DeKalb Tech programs? The study was limited to applicants and students in full-time day programs during the 10-quarter period between January 2, 1984 to June 6, 1986.

Definition of Terms

Application in this study is defined as the proper submission of an application form to DeKalb Tech Admissions. During the limitations of this study, there was no application fee and applications could be submitted at four campus locations.

Acceptance in a DeKalb Tech program indicates that the applicant has met all the entry requirements for a selected program. It does not include acceptance in DeKalb Tech options such as the

Evening Program, developmental studies, pre-technical courses, the Occupational Resource Center, Adult General Education, or other important short-term studies.

Enrollment is defined as student registration in one or more courses in a DeKalb Tech full-time day program.

Graduation describes the satisfactory fulfillment of program requirements which lead to a diploma or a degree. Completion describes conditions wherein an enrolled student is job-placed before fulfilling the program requirements. Therefore, graduation/completion describes program leavers who are job-ready by virtue of academic credentials or employer selection.

REVIEW OF RELATED LITERATURE

Most recorded retention studies in postsecondary institutions attempt to provide reasons why students are not retained. Job conflicts were the most often cited reason found in "The DeKalb Tech Retention Study" (Johnson, 1985). The results showed that a large portion of DeKalb Tech students have part-time and full-time job commitments. It was recommended that better marketing techniques, more personalized student services, and flexible course schedules be established to attract as well as to retain students who work.

It appears that the most productive efforts in retention will be made while students are still in school. Marin Community College conducted a study to determine whether direct mail and telephone contacts with dropouts could have a positive effect

on the student return rate (Stetson, 1984). The study treated four dropout groups: one which received a letter and a telephone call encouraging their return, a second which received telephone calls only, a third which received letters only, and a fourth which was not contacted at all. The findings showed that direct mail and telephone contacts with student dropouts had no significant effect on the student rate of return to the institution.

Faced with low rates of retention, Santa Barbara City College established a committee to assess the effectiveness of its support services. The committee recommended: (1) assessment of students enrolled in reading, writing, ESL, and certain mathematics courses; (2) group advisement for new students prior to registration; (3) early warning and coordination of support services; (4) the development of activities and programs to improve the match between institutional goals and the needs and expectations of students; and (5) the development of honors courses. It was found that retention rates were increased after the implementation of the recommendations (Cohen, 1984).

Nespor and Roueche (1983) contend that studying scholastic probation is a legitimate alternative to studying student retention. They conducted a mini-study of attrition, probation, and literacy at The University of Texas at Austin. It was found that students on academic probation frequently enroll in courses without completing the prerequisites, they overly represent the minority populations, and they frequently are not aware of the academic implications of their status. Nespor and Rouche concluded that

major factors which should be considered are (1) the academic reasons for which students dropout or are suspended, (2) the institutional definitions of attrition, and (3) the procedures used to monitor the success or failure of students.

The related literature disclosed no studies which dealt with retention rates of applicants and students as they progressed through the basic stages associated with programs in the matriculation process. However, in personal contacts the investigator found that such studies are sometimes conducted in institutions at the department or division level without benefit of publication. It appears that the results of these studies are deemed important for decision-making but are not readily shared with other institutions..

METHODOLOGY

The study required applicant and student data from several DeKalb Tech sources. The Records Office supplied applicant data, the Admissions Office supplied acceptance data, and the Administrative Computing Center supplied enrollment and graduation data. Each source provided the names and social security numbers of persons who were classified in one of the four basic stages during the limitations of this study.

The sample reflected applicants to DeKalb Tech programs since January 2, 1984 who were identified with program schedules which could be completed by June 6, 1986. Persons who applied before

January 2, 1984, although they may have progressed through one or more of the four basic stages during the limitations of this study, were not included in the sample. These parameters limited the sample to 5,592 persons, a number reflecting less than one-fourth of those who were classified in one of the four basic stages during the 10-quarter period. Also, these parameters generated sample portions which varied by program and by stage.

Data for the applicants and students were entered into the IBM Computer utilizing the statistical package of LOTUS 1-2-3. For each program, percentages were extracted which reflected student retention rates for the following four areas:

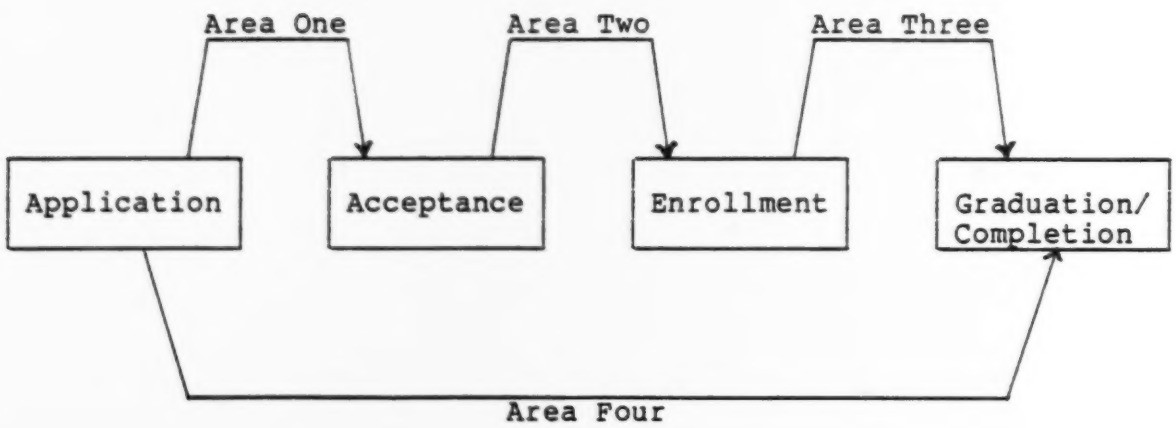
Area One: From Application to Acceptance.

Area Two: From Acceptance to Enrollment.

Area Three: From Enrollment to Graduation/Completion.

Area Four: From Application to Graduation/Completion.

Graphically, the relationship of these areas, the four basic stages, and the four percentages for each program can be viewed as follows:



RESULTS AND DISCUSSION

Student retention rate percentages in this study are described for 30 DeKalb Tech programs and are shown in Figures 1 through 5. Figure 1 indicates the retention rate percentages of DeKalb Tech applicants for Area One: from Application to Acceptance. It also indicates the program length and the original sample portion for each program. These sample portions are the program groups that were identified and followed through the four basic stages. For example, it can be seen that during the limitations of this study 127 persons applied in the Accounting Technology Program and 60% were accepted. It can also be seen that in the Emergency Medical Technology Program 219 persons applied and 39% were accepted. In all programs, 47% of those who applied were accepted while the remaining 53% were referred to other DeKalb Tech options.

Figure 2 indicates retention rate percentages for Area Two: from Acceptance to Enrollment. It can be seen that the 60% student retention rate previously described in the Accounting Technology Program example now indicates a reflective sample portion of 76. Also, the 39% student retention rate previously shown in the Emergency Medical Technology Program example now indicates a reflective sample portion of 85. These examples show that there were 76 persons who were accepted into the Accounting Technology Program and 85 in the Emergency Medical Technology Program, and that their retention rate percentages leading to enrollment were

72% and 91% respectively. In all programs, 76% of the sample who were accepted subsequently registered for enrollment.

Figure 3 indicates retention rates for Area Three: from Enrollment to Graduation/Completion. It also indicates the number of graduation/completions in this study. The examples described in Figures 1 and 2 now show that there were 55 persons who enrolled in the Accounting Technology Program and 77 in the Emergency Medical Technology Program. It also shows that 69% and 100% respectively accomplished graduation/completion. In all programs, 58% of the sample who enrolled accomplished graduation/completion.

Figure 4 provides program retention rates for Area Four: from Application to Graduation/Completion, the area which includes all the basic stages of matriculation. It can be seen that 30% of those who applied in the Accounting Technology Program and 35% of those who applied in the Emergency Medical Technology Program completed the cycle to accomplish graduation/completion. In all programs, 21% of the sample accomplished graduation/completion during the limitations of this study.

In Figure 4 it appears that programs which compete for enrollment with other institutions have lower rates of retention. Notable among these are the Data Processing Technology Program and the engineering technology programs with complete cycle retention rates of only 3%, 1%, 9%, and 2% respectively. Higher entry requirements as well as level of program difficulty may contribute to this condition. It also suggests that students take longer to complete some programs and may require wider course options.

Figure 5 provides a composite view of the retention rates.

Figure 1
Area One: Student Retention Rates From Application To Acceptance

Program Name	Program Length (qtrs.)	Sample Portion	Retention Rate Percentage
Accounting Technology	4	127	60
Automotive Technology/Auto Mechanic	4, 6, & 7	338	66
Commercial Art	4	135	57
Cosmetology	4	492	41
Data Processing Operations	2.5	288	67
Data Processing Technology	6	754	23
Diesel Truck Maintenance	4	55	56
Drafting	4	193	55
Early Childhood Paraprofessional	4	222	46
Electromechanical Engineering Technology	6	127	13
Electronics Engineering Technology	6	206	32
Electronics Maintenance Technology	6	102	84
Emergency Medical Technology	2	219	39
Executive Secretary	4	83	61
Heating, Refrigeration & Air Conditioning	4 & 6	272	69
Legal Secretary	2.5	64	50
Machine Tool Operation	4	108	80
Mechanical Engineering Technology	6	51	24
Medical Lab Technology	8	107	29
Medical Office Assistant	4	110	61
Medical Secretary/Transcriptionist	2.5	51	33
Offset Printing	4	128	65
Opthalmic Dispensing	6	105	54
Phlebotomy Technician	1.5	81	67
Practical Nursing	4	495	39
Radio & TV Servicing	4	160	59
Secretarial Program	4	159	61
Surgical Technology	4	127	35
Welding	4 & 6	106	60
Word Processing	2.5	127	32
All Programs		5,592	47

Figure 2
Area Two: Student Retention Rates From Acceptance To Enrollment

Program Name	Sample Portion	Retention Rate Percentage
Accounting Technology	76	72
Automotive Technology/Auto Mechanic	223	74
Commercial Art	77	88
Cosmetology	202	71
Data Processing Operations	193	77
Data Processing Technology	173	50
Diesel Truck Maintenance	31	90
Drafting	106	66
Early Childhood Paraprofessional	102	85
Electromechanical Engineering Technology	17	31
Electronics Engineering Technology	66	94
Electronics Maintenance Technology	86	71
Emergency Medical Technology	85	91
Executive Secretary	51	71
Heating, Refrigeration & Air Conditioning	187	79
Legal Secretary	32	97
Machine Tool Operation	86	90
Mechanical Engineering Technology	12	67
Medical Lab Technology	31	83
Medical Office Assistant	67	69
Medical Secretary/Transcriptionist	17	100
Offset Printing	83	78
Opthalmic Dispensing	57	84
Phlebotomy Technician	54	81
Practical Nursing	193	75
Radio & TV Servicing	94	72
Secretarial Program	97	70
Surgical Technology	44	91
Welding	64	81
Word Processing	41	98
All Programs	2,647	76

Figure 3
Area Three: Student Retention Rates From Enrollment To Graduation/Completion

Program Name	Sample Portion	Graduation/ Completion	Retention Rate Percentage
Accounting Technology	55	38	69
Automotive Technology/Auto Mechanic	164	79	48
Commercial Art	68	41	60
Cosmetology	143	96	66
Data Processing Operations	149	99	66
Data Processing Technology	87	20	24
Diesel Truck Maintenance	28	22	79
Drafting	71	29	41
Early Childhood Paraprofessional	88	53	60
Electromechanical Engineering Technology	5	1	20
Electronics Engineering Technology	62	19	31
Electronics Maintenance Technology	61	13	21
Emergency Medical Technology	77	77	100
Executive Secretary	36	29	81
Heating, Refrigeration & Air Conditioning	148	100	68
Legal Secretary	31	16	52
Machine Tool Operation	77	46	60
Mechanical Engineering Technology	8	1	13
Medical Lab Technology	26	17	65
Medical Office Assistant	46	36	78
Medical Secretary/Transcriptionist	17	12	71
Offset Printing	65	28	43
Opthalmic Dispensing	48	29	60
Phlebotomy Technician	44	36	82
Practical Nursing	145	91	63
Radio & TV Servicing	68	17	25
Secretarial Program	69	31	45
Surgical Technology	41	28	68
Welding	52	21	40
Word Processing	40	37	93
All Programs	2,020	1,162	58

Figure 4
Area Four: Student Retention Rates From Application To Graduation/Completion

Program Name	Sample Portion	Graduation/ Completion	Retention Rate Percentage
Accounting Technology	127	38	30
Automotive Technology/Auto Mechanic	338	79	23
Commercial Art	135	41	30
Cosmetology	492	96	20
Data Processing Operations	288	99	34
Data Processing Technology	754	20	3
Diesel Truck Maintenance	55	22	40
Drafting	193	29	15
Early Childhood Paraprofessional	222	53	24
Electromechanical Engineering Technology	127	1	1
Electronics Engineering Technology	206	19	9
Electronics Maintenance Technology	102	13	13
Emergency Medical Technology	219	77	35
Executive Secretary	83	29	35
Heating, Refrigeration & Air Conditioning	272	100	37
Legal Secretary	64	16	25
Machine Tool Operation	108	46	43
Mechanical Engineering Technology	51	1	2
Medical Lab Technology	107	17	16
Medical Office Assistant	110	36	33
Medical Secretary/Transcriptionist	51	12	24
Offset Printing	128	28	22
Opthalmic Dispensing	105	29	28
Phlebotomy Technician	81	36	44
Practical Nursing	495	91	18
Radio & TV Servicing	160	17	11
Secretarial Program	159	31	19
Surgical Technology	127	28	22
Welding	106	21	20
Word Processing	127	37	29
All Programs	5,592	1,162	21

Figure 5
Student Retention Rates For Areas One, Two, Three, and Four

Program Name	Retention Rate Percentages Area One	Area Two	Area Three	Area Four
Accounting Technology	60	72	69	30
Automotive Tech./Auto Mech.	66	74	48	23
Commercial Art	57	88	60	30
Cosmetology	41	71	66	20
Data Processing Operations	67	77	66	34
Data Processing Technology	23	50	24	3
Diesel Truck Maintenance	56	90	79	40
Drafting	55	66	41	15
Early Childhood Parapro.	46	85	60	24
Electromechanical Eng. Tech.	13	31	20	1
Electronics Engineering Tech.	32	94	31	9
Electronics Maintenance Tech.	84	71	21	13
Emergency Medical Tech.	39	91	99	35
Executive Secretary	61	71	81	35
Heating, Ref. & A/C	69	79	68	37
Legal Secretary	50	97	52	25
Machine Tool Operation	80	90	60	43
Mechanical Eng. Tech.	24	67	13	2
Medical Lab Technology	29	83	65	16
Medical Office Assistant	61	69	78	33
Medical Secretary/Trans.	33	100	71	24
Offset Printing	65	78	43	22
Opthalmic Dispensing	54	84	60	28
Phlebotomy Technician	67	81	82	44
Practical Nursing	39	75	63	18
Radio & TV Servicing	59	72	25	11
Secretarial Program	61	70	45	19
Surgical Technology	35	91	68	22
Welding	60	81	40	20
Word Processing	32	98	93	29
All Programs	47	76	58	21

CONCLUSIONS AND RECOMMENDATIONS

The student retention rate percentages found in this study reflect student traits and curriculum structure peculiar to DeKalb Tech. However, they are symptomatic of conditions which can be found in most vocational-technical schools in Georgia. The findings therefore have statewide as well as local implications.

Low student retention rates found in some areas of this study should not be construed as program deficiencies. The sample limitations of the study, type of program, frequency of program starts, and frequency of program offerings are factors which should be considered. Therefore, program by program comparisons of student retention rate percentages can be misleading, and each program should be evaluated individually. Since the data were generated during a 10-quarter period when student retention appeared to be most problematic, a careful examination of the percentage rates can provide valuable insight to problems which deter students from gainful academic persistence.

DeKalb Tech's new status as a degree-granting institution may require a different approach in the academic community. DeKalb Tech's Program of Studies could better accommodate students who want to pursue a credential while attending classes two or three days per week during the mornings, afternoons, evenings, and on Saturdays. Such innovations will require a course-based rather than a program-based curriculum. It will also require a re-orientation to course scheduling, a re-definition of the full-time student, and a revision of student follow-up procedures. With

these innovations alone, DeKalb Tech's Program of Studies will begin to look more like that of a two-year collegiate institution.

The findings suggest that many DeKalb Tech students take longer than the scheduled program lengths to complete their studies. It appears to be common for a student to temporarily drop out or to take a lighter load for one or more quarters and then resume a pace towards program completion. It is recommended that DeKalb Tech provide conditions which better accommodate students who desire longer or less structured periods of matriculation. Such conditions could include the development of: (1) more multiple program starts, (2) more multiple program course offerings, (3) more individualized instructional programs, (4) more courses with content and standards which meet the needs of several programs, and (5) more course offerings during the evenings and on Saturdays which satisfy degree and diploma requirements.

It is recommended that DeKalb Tech move towards a better coordinated day-evening merger which: (1) recognizes the full potential of both efforts in providing credentials, (2) eliminates any credit differences between day and evening courses which have the same content, and (3) establishes the Program of Studies as a continuous 7:00 AM to 10:00 PM six day per week activity. It is recognized that such innovations may require input from state authorities. However, such a merger may be necessary if the tech schools in Georgia are to successfully compete for student enroll-

ment and student retention in a market which has become increasingly complex.

It is recommended that DeKalb Tech establish an on-going system which electronically captures student retention data on a quarterly basis. In so doing, student retention rates can be observed regularly without engaging in the time-consuming methods used in this study.

Finally, it is recommended that DeKalb Tech faculty, administrators, and staff carefully consider the student retention rates found in this study. Faculty members should study the specific retention rates related to their programs and determine appropriate action which should be taken to increase the percentages. Since DeKalb Tech programs differ in length, content, and student attraction, action which can be beneficial may vary by program as well as by stage. Administrators should consider the retention rates in their more global perspectives in order to generate further curriculum innovations. Student Services personnel should consider the retention rates in their recruitment, counseling, and advisement efforts, and take action where it can facilitate the academic persistence of students.

Together, faculty, administrators, and staff are charged to establish and to maintain a rewarding social, psychological, and educational environment which delivers high quality instruction for students. This study sought to determine how well DeKalb Tech retained students in that commitment. If DeKalb Tech is to con-

tinue serving the needs of its constituents and to continue providing growth and development for their economic well-being, the institution must meet this most profound educational challenge of our times.

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